

**Abstract N°: 614****Vitiligo and Covid-19 vaccination: A Systematic review**

Priyanka Hemrajani<sup>1</sup>, Mona Sharma<sup>\*1</sup>, Somesh Gupta<sup>2</sup>

<sup>1</sup>esipgimsr, dermatology, delhi, India, <sup>2</sup>All India Institute Of Medical Sciences, New Delhi, India

**Introduction & Objectives:**

Several vaccines have been utilized during COVID-19 pandemic. These vaccines had a wide spectrum of adverse - effects. A systematic review was done to ascertain the development of new-onset and worsening of vitiligo post-covid-19 vaccination.

Objective: To ascertain the occurrence and worsening of vitiligo developing after covid-19 vaccination & their association with different vaccines.

**Materials & Methods:**

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All studies published between January 2021 to May 2022 which reported vitiligo after covid-19 vaccination were screened. Out of these, the studies which reported new onset or worsening of previously stable vitiligo were included.

Analysis was done for type of vaccine, time of appearance or worsening of vitiligo, family history of vitiligo, personal history of autoimmune diseases, treatment given, and outcome.

**Results:**

534 papers were screened, out of which 28 studies reported vitiligo post-covid 19 vaccination. Finally, 11 studies (11 patients) reporting new-onset or worsening of previously stable vitiligo were included in the analysis. Out of 11 patients, 7 were females.

The BNT162b2 (Pfizer mRNA) vaccine was most commonly associated with occurrence/worsening of vitiligo (5/11 patients, 45%). Most cases occurred after the 1st dose of vaccine (7/11 patients, 64%) and within 7 days of vaccination. Two patients (18%) had a family history of vitiligo, 3 patients (27%) had a history of autoimmune diseases and 2 (18%) patients partially recovered. All patients were being followed up after starting the treatment.

**Conclusion:**

New-onset or worsening of previously stable vitiligo after covid-19 vaccination is not infrequent. All patients were started with topical therapy or phototherapy and were being followed up.

**Abstract N°: 811****Symmetrical Drug Related Intertriginous and Flexural Exanthema (SDRIFE) after first dose of Pfizer-BioNTech COVID-19 vaccine: A novel report**Tasleem Arif<sup>\*1</sup><sup>1</sup>Dar As Sihha Medical center, Department of Dermatology, Dammam, Saudi Arabia

**Introduction & Objectives:** The Symmetrical Drug Related Intertriginous and Flexural Exanthema (SDRIFE) is a type of delayed flexural exanthema caused by systemic drug exposure in absence of prior cutaneous sensitization. Clinically, it is characterized by well-defined symmetrical erythema involving the gluteal area and other intertriginous body folds in the absence of systemic signs/symptoms. The prognosis of SDRIFE is excellent after the incriminating agent has been identified and stopped. Treatment with topical and systemic steroids aid in faster resolution of dermatitis. Several drugs have been reported to cause SDRIFE which include beta-lactam antibiotics, analgesics, radio contrast media, fluconazole, anti-hypertensives, chemotherapeutic agents, biologics, etc. SDRIFE due to covid-19 vaccination has rarely been reported. In this case presentation, the author reports SDRIFE after first dose of Pfizer-BioNTech COVID-19 vaccine.

**Materials & Methods:** A 37-year-old male presented with itching and burning sensation associated with erythematous eruption of 3 days duration. The eruption developed on the 6th day of receiving first dose of Pfizer-BioNTech COVID-19 vaccine. The rash first started in groin area and progressed to gluteal area, axillae, neck, cubital fossae and flexural folds of trunk. Except for vaccination, he denied any other drug exposure prior to the rash. He denied any changes in the use of personal care products or taking any over the-counter supplements. The patient did not report any systemic symptoms. On examination, there were symmetrical well defined erythematous plaques involving neck, axillae, inguinal folds, gluteal area, cubital and popliteal fossae, and flexural folds of trunk. At some places, these plaques were studded with pin point papules and pustules. Rest of the systemic examination was unremarkable. Routine laboratory tests including investigations for covid-19 infection were normal except for mild leukocytosis. Punch skin biopsy from the back was suggestive of drug reaction. Based on history, clinical examination, histopathological findings and criteria laid down by Häusermann et al, he was diagnosed as Systemic drug-related intertriginous and flexural exanthema due to Pfizer-BioNTech COVID-19 vaccine.

**Results:** He was treated with oral prednisolone 30mg per day, levocetirizine 5mg/day and topical calamine lotion to be applied 4 times per day over affected areas. The cutaneous eruption resolved completely in 12 days and after that steroid tapering was done for further 1 week.

**Conclusion:** To date, there have been only a handful of reports of SDRIFE due to COVID-19 vaccination, specifically Pfizer-BioNTech COVID-19 vaccine. Our case substantiates the previous reports of SDRIFE due to Pfizer-BioNTech COVID-19 vaccination.



**Abstract N°: 955****A novel eHealth strategy for primary prevention of hand eczema in healthcare workers during and after the COVID-19 pandemic**

Cara Symanzik\*<sup>1, 2</sup>, Swen Malte John<sup>1, 2</sup>

<sup>1</sup>Osnabrück, Institute for Interdisciplinary Dermatological Prevention and Rehabilitation (iDerm) at Osnabrück University, Osnabrück, Germany, <sup>2</sup>Osnabrück, Department of Dermatology, Environmental Medicine and Health Theory at Osnabrück University, Osnabrück, Germany

**Introduction & Objectives:** COVID-19-associated hand hygiene measures have led to a significant increase in occupational hand eczema among healthcare workers (HCWs). The objective of this work was to evaluate the effectiveness of a novel contemporary prevention strategy (eHealth, free skincare) for preventing hand eczema in HCWs.

**Materials & Methods:** Development of an integrated eHealth strategy (online health education training combined with unlimited provision of gratis skin cleansing and skincare products for professional and private use). This was evaluated in a controlled, prospective intervention study in a total n=302 HCWs. The intervention group (IG, n=135) was offered the integrated eHealth strategy. The control group (KG, n=167) received no intervention (skincare as usual). The skin condition of the hands was assessed at the beginning of the study (T0) and after 6 months (T2) in a dermatological examination using the Osnabrueck Hand Eczema Severity Index (OHSI). Participants in the intervention group were asked about the use of skincare products at T2 using fully standardized written questionnaires.

**Results:** The drop-out rate at T2 was 16.9%. None of the 115 participants at T2 in the IG and 12 (8.8%) of the 136 participants at T2 in the CG developed hand eczema during the observation period. With the same initial findings (1.5 points in IG and CG at T0), the OHSI at T2 showed a significantly better skin condition in the IG than in the CG (0.6 points vs. 2.1 points,  $p<0.001$ ). The questionnaire revealed a usage rate of the 115 participants at T2 in the IG for the provided skin products of 74.8% in the professional and of 88.7% in the private field. 78.3% of the 115 remaining participants at T2 in the IG used the eHealth program.

**Conclusion:** The quality of the complex dermatological prevention concept is reflected in the high level of acceptance of the eHealth program and the skincare products provided. It can thus be concluded that the presented concept is effective in preventing (occupational) hand eczema in HCWs – and this under a high workload and increased hygiene measures in times of the COVID-19 pandemic (>100,000 new infections in HCWs reported in the observation period). In addition, the concept can be transferred to most other skin-hazardous professions (e.g., hairdressers, cosmeticians, cleaning personnel etc.). The eHealth concept is immediately available and can be used in practices as well as hospitals (patient flyer: [tinyurl.com/handoutdownload](https://tinyurl.com/handoutdownload); modifiable files: [tinyurl.com/individuelleskonzept](https://tinyurl.com/individuelleskonzept)).

**Abstract N°: 1060****Vaccination and COVID-19 infection in psoriatic patients treated with biologics**

Danijela Milcic<sup>1</sup>, Doroteja Krupnikovic<sup>2</sup>, Andja Cirkovic<sup>3</sup>, Marija Malinić<sup>1</sup>, Mirjana Milinkovic<sup>1</sup>

<sup>1</sup>University Clinical Center of Serbia, Belgrade, Serbia, Clinic of Dermatovenereology, Belgrade, Serbia, <sup>2</sup>University of Belgrade, Belgrade, Serbia, Faculty of Medicine, Belgrade, Serbia, <sup>3</sup>Institute for Medical Statistics and Informatics, Belgrade, Serbia

**Introduction & Objectives:** Psoriasis is a chronic, immune-mediated, genetically determined disease, presented with erythematous scaly plaques. Treatment includes conventional therapies and biologics. Coronavirus disease 2019 (COVID-19) raised widespread concern about the treatment of psoriasis, with immunosuppressive drugs, especially biologics. Even though there was no data on the efficacy and safety of COVID-19 vaccines in patients with psoriasis treated with biologics, the National Psoriasis Foundation recommends their use in these patients.

The aim of this study was to evaluate the effect of vaccination and COVID-19 infection in patients with psoriasis treated by biologics and disease state.

**Materials & Methods:** A retrospective cohort study was conducted at the Clinic of Dermatovenereology, University Clinical Center of Serbia (UCCS) during the COVID-19 pandemic. Data was collected from medical documentation, all stored in the computer database – Heliant during the consecutive hospitalization of patients with psoriasis who received biologics.

**Results:** A total of 181 patients with psoriasis were treated with two biologics (ustekinumab 61% and secukinumab 37%) and achieved significant improvement of psoriasis severity (PASI before 14.1 (0-50.5) and after 1.2 (0-49.7),  $p < 0.001$ ) and quality of life (DLQI before 15.0 (0-34) and after 0 (0-28)). Vaccine against COVID-19 infection received 53%, but only 20.4% received three doses. COVID-19 infection was reported in 34.5% of all patients, but 68% of them got infected before getting vaccinated. Therapy with biologics was delayed due to COVID-19 infection in 29% and 21% of them had exacerbation of psoriasis.

**Conclusion:** Vaccination rate in patients with psoriasis receiving biologics was hardly 50%, and about a third of the patients had milder form of COVID-19 infection. The therapy with biologics was successful in patients with psoriasis, regardless of the interruption and worsening of the main disease in some patients due to COVID-19 infection for a short period.

**Abstract N°: 1339**
**A case of Acute Generalized Exanthematous Pustulosis (AGEP) following COVID-19 infection and Remdesivir**

 Yasamin Kalantari<sup>1</sup>, Alireza Ghanadan<sup>2</sup>, Ifa Etesami<sup>1</sup>
<sup>1</sup>Tehran University of Medical Sciences, Department of Dermatology, Tehran, Iran, <sup>2</sup>Tehran University of Medical Sciences, Department of Pathology, Tehran, Iran

**Introduction & Objectives:**

In the COVID-19 era, cases of acute generalized exanthematous pustulosis (AGEP) after COVID-19 infection and the use of COVID-19 medications such as hydroxychloroquine (HCQ) and cefepime have been reported. Herein, we report a challenging case that presented with AGEP following COVID-19 infection and a history of remdesivir use.

**Materials & Methods:**

In this study, a case of long-lasting AGEP following both COVID-19 infection and Remdesivir is presented.

**Results:**

A 65-year-old female with a three days history of widespread pruritic pustules presented. The patient had a prior history of diabetes mellitus controlled with metformin and gliclazide, hyperthyroidism controlled with methimazole, and hypertension for which she was taking losartan and amlodipine. She was taking all these medications since the last 3 years. Four months before presentation, she had received the second dose of Pfizer vaccine. One week before presenting to our clinic, she was diagnosed with COVID-19 infection and had received two doses of remdesivir in another hospital.

The lesions first emerged as maculopapular erythematous lesions and pustules on her upper limbs and then rapidly progressed to the whole body. Of note, the patient was afebrile with mild respiratory symptoms and mild reticulation observed in chest CT scan. We suspected remdesivir as the culprit for AGEP and according to the mild respiratory symptoms, remdesivir was discontinued. The only abnormal findings in the laboratory examination were leukocytosis (WBC:14000), CRP:2+, and ESR:40mm/hr (normal range 0 to 29 mm/hr).

The clinical and histopathological findings were compatible with AGEP due to either COVID-19 infection or remdesivir. Prednisolone 30 mg and cyclosporin 200 mg daily was prescribed. During her hospital stay, the D-dimer level was increased from 702 to 2337 with a normal range below 500. Enoxaparin 40 mg subcutaneous was initiated. Furthermore, due the elevated serum glucose level, insulin regular and NPH was prescribed. She was discharged after 2 weeks of hospital stay and the prednisolone dosage was tapered in 5 mg increments once a week.

In our follow up after discharge, she experiences two relapses (3 months and 7 months after her discharge) with sudden eruption of pustules which were controlled by increasing the dosage of cyclosporin to 300 mg daily and prednisolone to 30 mg temporarily. Six months after the onset of AGEP, both cyclosporin and prednisolone was changed to Methotrexate (MTX) due to long duration of receiving cyclosporin. MTX was initiated with a dosage of 10 mg/week and her lesions were completely resolved after a year since the onset of AGEP.

**Conclusion:**

AGEP is an exanthematous condition and in most cases, it is caused by drugs but other factors such as bacterial, viral, or parasitic infections can induce the disease. In our case, it was not clear whether AGEP was triggered by the COVID-19 infection or as a potential side-effect of Remdesivir. Of note, the AGEP in our case took a long time (near 12 months) to be controlled. Our study highlights the importance of considering previous history of COVID-19 infection and Remdesivir use as possible causative factors when visiting new-onset AGEP patients.

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**Abstract N°: 1341****Cutaneous manifestations following COVID-19 vaccination: A report of 25 cases**

Yasamin Kalantari<sup>\*1</sup>, Safoura Shakoei<sup>1</sup>, Maryam Nasimi<sup>1</sup>, Nasim Mazloumi Toutounchi<sup>1</sup>, Mahshidalsadat Ansari<sup>1</sup>, Zahra Razavi<sup>2</sup>, Ifa Etesami<sup>1</sup>

<sup>1</sup>Tehran University of Medical Sciences, Department of Dermatology, Tehran, Iran, <sup>2</sup>Tehran University of Medical Sciences, Tehran, Iran

**Introduction & Objectives:**

Various adverse effects particularly cutaneous manifestations associated with different COVID-19 vaccines have been observed in practice. The aim of our study was to evaluate all patients who presented to our tertiary center with skin manifestations following COVID-19 vaccines injection

**Materials & Methods:**

We included all patients presented to our clinical from September to December 2021 with skin manifestation within 30 days or less following COVID-19 vaccination in our case-series. All cases included in our study were diagnosed based on clinical and/or histopathological evaluation and all other possible differential diagnoses were ruled out.

**Results:**

Twenty-five individuals including 16 (64%) males and 9 (36%) females with the mean age of  $47 \pm 17.62$  years (range 18-91) were enrolled in our study. 56% of patients (N = 14) showed symptoms after the first dose of vaccination.

Twenty-two (88%) patients developed lesions after Sinopharm vaccine injection and 3 (12%) cases manifested lesions after the AstraZeneca vaccine. Six (24%) patients developed new-onset lichen planus (LP) and 1 (4%) patient manifested LP flare-up. Two (8%) individuals developed psoriasis and 1 (4%) case showed psoriasis exacerbation. One (4%) patient developed new-onset pemphigus vulgaris (PV) and 1 (4%) case experienced a flare of PV lesions. One (4%) patient manifested pityriasis lichenoides et varioliformis acuta (PLEVA) flare-up. Other new-onset cases were as follows: toxic epidermal necrolysis (TEN) (n = 1, 4%), bullous pemphigoid (BP) (n = 2, 8%), alopecia areata (AA) (n = 2, 8%), pityriasis rosea (n = 1, 4%), herpes zoster (n = 1, 4%), cutaneous small vessel vasculitis (n = 1, 4%), erythema multiform (EM) and urticaria (n = 3, 12%), and morphea (n = 1, 4%).

**Conclusion:**

While rare, the immune dysregulation caused by COVID-19 vaccines can subsequently cause a new-onset skin manifestation or worsen an underlying condition.

Our study suggests 11 different categories of skin manifestations within 30 days or less following vaccination with Sinopharm and AstraZeneca vaccines. The interval between the vaccination and skin manifestation was 12 days. Most patients showed reactions after administration of the first dose of the vaccine. Moreover, some cases showed mild symptoms after the first dose of vaccine that worsened after the second dose.

Mass vaccination against COVID-19 is the key to stopping the current pandemic and physicians should be aware of the possible side effects especially cutaneous manifestations associated with COVID-19 vaccines.

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**Abstract N°: 1377**
**A case with Pityriasis rosea like skin rash following COVID 19 vaccination**

Imad Eddine Rabia<sup>1</sup>, Nyhel Ouerdane<sup>1</sup>, Lyes Chaib Cherif<sup>1</sup>, Abdelmalek Harim<sup>1</sup>, Sabrina Malya Belateche<sup>1</sup>, Mounia Slaouti<sup>1</sup>, Lamia Chalouli<sup>1</sup>, Abderrachid Bouakkaz<sup>\*1</sup>, Mohand Ouali Ait Si Ali<sup>1</sup>, Aïcha Salhi<sup>1</sup>, Assya Djeridane<sup>1</sup>

<sup>1</sup>Hospital Central Army Dr Mohamed Seghir, Dermatology, Kouba, Algeria

**Introduction & Objectives:**

Pityriasis rosea (PR) is a benign skin rash that primarily affects children and young adults. Its diagnosis is based on clinical presentation, which includes a maculopapular rash on the trunk and limbs that is preceded by a herald patch. Although rare, a similar rash can be caused by drug-induced skin reactions or vaccinations. Due to the COVID-19 pandemic and mass vaccination campaigns, adverse effects related to vaccines, particularly skin reactions, have been reported. Here, we present a case of a pityriasis rosea-like drug reaction following the CoronaVac anti-COVID-19 vaccine in a young adult

**Materials & Methods:**

Observation: A 28-year-old man with a history of healed lymph node tuberculosis for 13 months presented with a rash of maculopapular lesions that had been evolving for 15 days. The rash began 14 days after the first dose of CoronaVac and was not accompanied by fever or respiratory symptoms. Physical examination revealed multiple scaly ovular macules and papules measuring up to 1 cm in diameter. The lesions extended symmetrically over the trunk, flanks, chest, abdomen, axillary folds, and extremities. Some lesions had a collarette appearance at the periphery. There was no herald patch, but severe itching was reported. Mucosa was spared, and the rest of the physical examination was normal. Blood count, renal and hepatic function tests, CRP level, and serum protein electrophoresis were all within normal ranges. Results of syphilis serology, herpes simplex virus (HSV) 1, HSV 6 and HSV 7, cytomegalovirus, parvovirus B19, and COVID-19 serologies, as well as RT-PCR COVID-19 and mycological examination, were unremarkable. Chest X-rays and abdominal-pelvic ultrasound findings were also normal. Histological examination of the skin biopsies showed epidermal spongiosis associated with necrotic keratinocytes and a perivascular lymphocytic infiltrate in the superficial dermis. The patient was treated with a topical corticosteroid (clobetasol propionate) combined with emollient cream, resulting in complete remission after three weeks.

**Results:**

The most likely diagnosis was PR like drug reaction caused by the CoronaVac vaccine. This diagnosis was made based on the patient's medical history, clinical examination, histopathological analysis, and the progression of the symptoms over time

**Conclusion (and discussion):**

The pathogenesis of PR is still not fully understood. Endogenous reactivation of HSV6 and HSV7 is considered the primary triggering factor. However, a rare form of drug-induced skin reaction, known as PR-like, has been associated with various medications such as angiotensin-converting enzyme inhibitors, non-steroidal anti-inflammatory drugs, and pristinamycin. In addition, PR-like reactions have been reported following different vaccinations such as Bacillus Calmette-Guerin, anti-influenza, diphtheria, hepatitis B, pneumococcal, and most recently, anti-COVID vaccines. Our case report adds to the growing literature of PR-like reactions following the CoronaVac anti-COVID vaccine



**Abstract N°: 1428****Autoimmune skin disorders and SARS-CoV-2 vaccination: a meta-analysis**

Julia Hinterseher<sup>1</sup>, Dario Didona<sup>1</sup>, Michael Hertl<sup>1</sup>

<sup>1</sup>Philipps-Universität Marburg, Dermatologie und Allergologie, Marburg

**Introduction & Objectives:**

The coronavirus SARS-CoV-2 which is the cause of COVID-19 disease in infected patients, has led to an ongoing worldwide pandemic. Although SARS-CoV-2 vaccination had a dramatic positive effect on the course of COVID-19, there has been increasing evidence of adverse effects after SARS-CoV-2 vaccination. This meta-analysis highlights the association between SARS-CoV-2 vaccination and de novo induction or aggravation of inflammatory and autoimmune skin diseases.

**Materials & Methods:**

A systematic meta-analysis of the literature on new onset or worsening of inflammatory and autoimmune diseases after SARS-CoV-2 vaccination was performed according to the PRISMA guidelines. The search strategy included following terms: "COVID-19/SARS-CoV-2 vaccine bullous pemphigoid/pemphigus vulgaris/systemic lupus erythematosus/dermatomyositis/lichen planus/leukocytoclastic vasculitis". Moreover, we describe representative cases from our dermatology department.

**Results:**

The database-search in MEDLINE identified 31 publications on bullous pemphigoid, 24 on pemphigus vulgaris, 65 on systemic lupus erythematosus, nine on dermatomyositis, 30 on lichen planus, and 37 on leukocytoclastic vasculitis until June 30, 2022. Severity and response to treatment varied among the described cases.

**Conclusion:**

Our meta-analysis highlights a link between SARS-CoV-2 vaccination and new onset or worsening of inflammatory and autoimmune skin diseases. Moreover, the extent of disease exacerbation has been exemplified by cases in our dermatological department.



**Abstract N°: 1571****Steven Johnson Syndrome Following ChAdOx1 nCoV-19 Vaccination (AstraZeneca)**So Yeon Yun<sup>\*1</sup>, Young Bok Lee<sup>1</sup><sup>1</sup>Department of Dermatology, Uijeongbu St. Mary's Hospital, dermatology , seoul, Korea, Rep. of South**Introduction & Objectives:**

The pandemic caused by SARS-CoV-2 continues, and by June 30, 2021, 182 million people worldwide have been infected with COVID-19, with 3.9 million deaths. Various types of vaccines have been developed to combat this pandemic infectious disease. As of July 1, 2021, 15 million people in Korea had received the first vaccination, of which 10 million received the University of Oxford/AstraZeneca non-replicating chimpanzee adenovirus-vectored (ChAdOx1 nCoV-19) vaccine that delivers the spike antigen protein of SARS-CoV-2 using adenoviruses. Due to the short history of this type of vaccine, its safety remains unknown. Steven Johnson Syndrome is a rare, potentially life-threatening skin disorder usually caused by an immune-mediated reaction to drugs. Vaccine-associated Steven Johnson Syndrome, however, is rare.

**Materials & Methods:**

A healthy 59-year-old female presented with bullae on the trunk and both extremities. She had no previous history of medication or hypersensitivity reactions to any drugs. She had received the first dose of ChAdOx1 nCoV-19 vaccine 3 weeks prior. The patient reported fever and chills that started the day after vaccination, and a skin rash developed a few days later. On physical exam, multiple, variable-sized, erythematous patches and hemorrhagic bullae were located on the lips, dorsum of the right hand, trunk, and extremities. The laboratory tests were normal, other than slightly elevated erythrocyte sedimentation rate and C-reactive protein. A skin biopsy specimen revealed subepidermal blister and full thickness epidermal necrosis.

**Results:**

Based on these findings, the patient was ultimately diagnosed with Steven Johnson Syndrome. The patient was treated with triamcinolone 4 mg, prednisolone 2.5 mg, and topical methylprednisolone 0.1% cream for 7 days. The skin lesions cleared, but the patient was reluctant to receive the second dose of the vaccine.

**Conclusion:**

In this report, we present a case of Steven Johnson Syndrome arising after ChAdOx1 nCoV-19 vaccination. The patient was treated with oral and topical steroids. Steven Johnson Syndrome is rare after vaccination. No cases of Steven Johnson Syndrome related to the COVID-19 vaccines have been reported in Korea. However, it is a potentially fatal cutaneous adverse event. Clinicians should be aware of severe cutaneous adverse events that occur after vaccination.

**Abstract N°: 1734****Attitudes towards clinical research in patients with hidradenitis suppurativa during the COVID-19 pandemic: insights from a questionnaire-survey**

Nikolaj Holgersen<sup>\*1</sup>, Valdemar Wendelboe Nielsen<sup>1</sup>, Zarqa Ali<sup>1</sup>, Jacob Pontoppidan Thyssen<sup>1</sup>, Alexander Egeberg<sup>1</sup>, Simon Francis Thomsen<sup>1, 2</sup>

<sup>1</sup>Bispebjerg Hospital, Department of Dermato-Venereology, Copenhagen, Denmark, <sup>2</sup>University of Copenhagen, Department of Biomedical Sciences, Copenhagen, Denmark

**Introduction & Objectives:** The field of hidradenitis suppurativa (HS) research is rapidly expanding. Although the COVID-19 pandemic created an urgent need for participation in medical research and transition to digital solutions, the attitude towards participating in clinical research projects, and the digital readiness in patients with HS remain poorly understood. The aim of this study was to examine attitudes towards participating in clinical research projects and digital readiness of patients with HS, compared to other dermatologic patients, during the COVID-19 pandemic.

**Materials & Methods:** Adults with HS and a group of other dermatological patients (primarily chronic urticaria, psoriasis and atopic dermatitis) serving as controls, were recruited from a dermatological university outpatient clinic for the study between 2020 and 2021. Patients answered a questionnaire of 28 questions assessing attitude towards participation in research projects, and digital readiness using a Likert-scale with 5 or 6 points. A research attitude score (RAQ) ranging from 11-55 and a research participation score (RPQ) ranging from 10-51 were calculated from the responses, with higher scores indicating a more positive point of view.

**Results:** A total of 100 patients with HS and 24 controls completed the questionnaire. Mean overall RAQ and RPQ-scores were 42.8 (SD 5.2) and 40.2 (SD 6.3) and were significantly positively correlated  $r_s = 0.44$ ,  $p < 0.01$ ). Patients with HS had significantly higher RAQ-scores (43.4 vs. 40.6)  $p = 0.02$  but not RPQ-scores (40.4 vs. 39.2)  $p = 0.36$  when compared to controls. Overall, patients answering the questionnaire in 2021 had higher mean RAQ-scores (43.9 vs. 41.2)  $p = 0.01$  and RPQ-scores (41.3 vs. 38.6)  $p = 0.03$  when compared to answers from 2020, and  $\Delta time$  from first to last answered questionnaire was significantly positively correlated with RAQ-score  $r_s = 0.25$ ,  $p = 0.02$ ) and RPQ-score  $r_s = 0.26$ ,  $p = 0.01$ ). Overall, RAQ and RPQ-scores were not significantly different between age groups, gender and previous participation in research,  $p > 0.05$ . When assessing digital readiness, patients answering in 2021 were more likely to trust their information was kept safe when using digital platforms than patients answering in 2020,  $p = 0.02$ . In the intra-group analysis of patients with HS, patients of non-Caucasian descent had lower mean RPQ-scores (34.9 vs. 41.1)  $p = 0.01$  but did not differ in RAQ-scores. No significant differences in RAQ and RPQ-scores within age groups, gender, employment status, Hurley stage, IHS4-scores and DLQI were found,  $p > 0.05$ .

**Conclusion:** Patients generally had a positive attitude towards clinical research, willingness to participate and digital readiness. Patients with HS were more positively favored than dermatologic patients in general. Time was a significant factor, likely due to the COVID-19 pandemic prompting a change in mentality and an urgent need for digital adaptation and research participation.

**Abstract N°: 1841****Comparison of COVID-19 Vaccination Rates Among Psoriasis Patients Globally Using the Global Healthcare Study on Psoriasis (GHSP); An Update**

Edwin Korouri<sup>1</sup>, Hannah Peterson<sup>2</sup>, Fernando Valenzuela<sup>3, 4</sup>, Ricardo Romiti<sup>5</sup>, Johannes Didaskalu<sup>6</sup>, Alexander Egeberg<sup>7, 8</sup>, Hazel Oon<sup>9</sup>, Paige Kingston<sup>10</sup>, Margaret Huang<sup>10</sup>, Danielle Yee<sup>10</sup>, Kevin Artiga<sup>10</sup>, Rosario Agüero<sup>10</sup>, Kathryn Lee<sup>11</sup>, Julia-Tatjana Maul<sup>6, 12</sup>, April W. Armstrong<sup>10</sup>

<sup>1</sup>Chicago Medical School, North Chicago, United States, <sup>2</sup>Loma Linda University School of Medicine, Loma Linda, United States, <sup>3</sup>University of Chile, Santiago, Chile, <sup>4</sup>Centro Internacional de Estudios Clínicos, Probit Medical Research, Santiago, Chile, <sup>5</sup>University of São Paulo, Brazil, <sup>6</sup>University of Zurich, Zürich, Switzerland, <sup>7</sup>Bispebjerg Hospital, København, Denmark, <sup>8</sup>Copenhagen University, København, Denmark, <sup>9</sup>National Skin Centre, Singapore, Singapore, <sup>10</sup>Keck School of Medicine of USC, Los Angeles, United States, <sup>11</sup>Saint Louis University School of Medicine, St. Louis, United States, <sup>12</sup>University Hospital of Zürich, Zürich, Switzerland

**Introduction & Objectives:**

National guidelines in most countries recommend COVID-19 vaccination for all psoriasis patients, including those on biologics. This study compares the rate of COVID-19 vaccination among psoriasis patients in the United States, Switzerland, Chile, China, and Singapore and among psoriasis patients on topical, phototherapy, oral systemic, and biologic treatments.

**Materials & Methods:**

We conducted a cross-sectional study (January 2020-October 2022) among adults in the United States, Chile, China, Switzerland, and Singapore using the Global Healthcare Study on Psoriasis survey. Psoriasis patients who did not have access to vaccines at the time of survey were excluded. Multivariate analyses were adjusted for age, gender, race, education level, insurance type, Charlson Comorbidity Index, and previous COVID-19 diagnosis.

**Results:**

A total of 310 psoriasis patients across the United States (US) (98), Chile (32), China (80), Switzerland (39), and Singapore (61) were surveyed regarding the number of times they have been vaccinated for COVID-19. 248 patients (80.0%) were vaccinated at least once for COVID-19 (Chile: 100%, China: 45.0%, Singapore: 100%, Switzerland: 69.2%, US: 93.9%). Compared to other countries, patients in China were 0.11 times less likely to have received at least one COVID-19 vaccination (95% CI: 0.03-0.48), and patients in Switzerland were 0.20 times less likely (95% CI: 0.05-0.79). Compared to patients on biologics, patients on phototherapy had similar vaccination rates ( $p=0.51$ ). However, patients on topical therapies alone were 10.9 (95% CI: 2.1-56.6) times more likely to have received at least one COVID-19 vaccination than those on biologics, and patients on oral systemics were 7.2 times more likely to have received at least one COVID-19 vaccination (95% CI: 1.6-31.6).

**Conclusion:**

Country of origin and treatment regimen are associated with differential vaccination rates against COVID-19 in psoriasis patients. Clinicians should be aware of this vaccination gap in psoriasis patients on biologics globally and recommend COVID-19 vaccination for all psoriasis patients.





**Abstract N°: 2131****Safe and successful treatment with secukinumab in a Generalized Pustular Psoriasis flare triggered by mRNA COVID-19 vaccine.**

Alessandro Falco Scampitilla<sup>1</sup>, Cristina Mugheddu<sup>1</sup>, Jasmine Anedda<sup>1</sup>, Alessia Frau<sup>1</sup>, Brunella Conti<sup>1</sup>, Caterina Ferrelli<sup>1</sup>, Laura Atzori<sup>1</sup>

<sup>1</sup>Unit of Dermatology , Department Medical Sciences and Public Health, University of Cagliari, Cagliari, Italy

Safe and successful treatment with secukinumab in a Generalized Pustular Psoriasis flare triggered by mRNA COVID-19 vaccine.

**Introduction & Objectives:** Generalized pustular psoriasis (GPP) is a rare but potentially life-threatening variant of psoriasis, with many possible triggers, including medications. After the vaccination campaign against Coronavirus disease 2019 several cutaneous manifestations have been observed, including the new-onset of cutaneous diseases and flares of preexisting skin disorders. We report a case of GPP exacerbation in a 71-year-old man, after the Pfizer-BioNTech BNT162b2 mRNA coronavirus disease 2019 (COVID-19) vaccine, successfully resolved keeping his treatment with secukinumab.

**Materials & Methods:** The patient had a past medical history of diabetes, obesity and history of GPP since 2016, under treatment with secukinumab 300 mg every four weeks with a complete control of the disease (PASI 0). He had previously been treated with cyclosporine, discontinued for elevated creatinine levels and hypertension. When he presented to our department with the flare of GPP, the PASI was 26, with widespread, painful erythematous scaling plaques, surrounded by numerous sterile pustules involving his trunk, arms, and legs. The patient had also fever, malaise and arthralgias. The eruption had suddenly occurred one week after the first dose of Comirnaty (Pfizer-BioNTech COVID-19 vaccine) administration.

**Results:** Laboratory findings showed 10000/mm<sup>3</sup> white cells, creatinine 1,4 mg/dl, gammaGT 150 UI/l and C-reactive protein 20 mg/dL. The COVID-19 polymerase chain reaction (PCR) test and bacterial cultures of the pustules were negative. According to the Naranjo criteria, the likelihood of the vaccine as the causal agent was probable and the score was 6. Considering the clinical stage, the comorbidities and the high infective risk, we decided to maintain the same anti-IL17 agent, not altering the secukinumab scheduled administration, and four weeks after the pustules had vanished, with only some remaining erythematous patches. Also, systemic parameters had recovered.\*\* To date the patient is still on therapy, having achieved the complete disease control (PASI 0) at Week 12.\*\* However,\*\* a second vaccination dose was not administered.

**Conclusion:** The association of COVID-19 vaccines with flares of GPP has been reported, and the severity of the skin disease arises ethical concern on the risks of perform the vaccination in patients with a previous history of GPP. Our report confirms the triggering role of COVID-19 vaccine, but also reassures of the good prognosis and fast control of the GPP flare while on treatment with an anti-IL17 agent.

Secukinumab demonstrated to be an effective and safe agent for the treatment of GPP. Further studies are needed to establish guidelines related to the management of a GPP flare after vaccines, especially on the risks and benefits assessment of administering the second vaccine dose or consider to switch to another vaccine.

**Abstract N°: 2229****A case series of interesting mucocutaneous presentations in COVID-19 infection or post COVID-19 vaccination confirmed by biopsy and histopathologic assessment**

Arash Pour Mohammad<sup>1</sup>, Elaheh Noroozi<sup>1</sup>, Milad Gholizadeh Mesgarha<sup>1</sup>, Nasrin Shayanfar<sup>2</sup>, Azadeh Goodarzi<sup>3</sup>

<sup>1</sup>Iran University of Medical Science, Faculty of Medicine, Tehran, Iran, <sup>2</sup>Rasoul Akram Hospital, Pathology, Tehran, Iran, <sup>3</sup>Rasoul Akram Hospital, Dermatology, Tehran, Iran

**Introduction & Objectives:**

Mucocutaneous complications or adverse events due to SARS-CoV-2 infection or vaccination have been well-delineated in the literature, respectively. Most eruptions are considered to be mild and self-limiting; however, for the atypical cases which have a tentative clinical diagnosis, performing a biopsy and histopathological assessment is pivotal to confirm the diagnosis and subsequently prescribe a more tailored treatment. Despite the diverse reporting of such incidents globally, the rate of biopsied cases is restricted to less than 15% in most studies.

**Materials & Methods:**

This case series elucidates 20 patients referred to the tertiary dermatology clinic, including 14 COVID-19 infection-related eruptions such as Lichen Planus (LP), Cutaneous vasculitis, Pityriasis rosea (PR), Discoid lupus erythematosus, Guttate psoriasis, Sarcoidosis, Raynaud's phenomenon, non-specific lesions resembling genital warts, Beau's line and one severe case of purpura fulminans with a promising outcome. Moreover, we presented 6 vaccine-induced cases comprising LP, Urticarial vasculitis, PR, Parapsoriasis, and Localized Morphea. The diagnosis of all cases has been proven by histopathological evaluation. We included pertaining anamnesis details of each patient together with vivid classifying images to pinpoint the morphologic features of each condition.

**Results:**

In line with our previous studies, the vaccine-induced eruptions were less severe compared to infection-related complications of COVID-19 and are mostly controllable by antihistamines and corticosteroids administration.

**Conclusion:**

Therefore, reporting such events should not hinder COVID-19 vaccination in the general population.



**Abstract N°: 2783**
**The importance of cosmeceuticals in the treatment and prevention of skin disorders related to COVID-19 pandemic**

 Marija Tasic-Kostov\*<sup>1</sup>
<sup>1</sup>University of Niš-Faculty of Medicine, Pharmacy department, Niš, Serbia

**Introduction & Objectives:** Now, three years after the beginning of pandemic, it is obvious that COVID-19 has highlighted different areas of skin damage. Some of them have previously been described in literature, but not necessarily as mainstream topics. Depending on severity of COVID 19 related skin disorder, cosmeceuticals are often recommended in their management. In this paper we highlighted skin adverse events related to all aspects of COVID-19 pandemic aiming to provide a comprehensive overview and enlighten the role of cosmeceuticals in the treatment of those skin issues, according to published studies and guidelines.

**Materials & Methods:** The databases were searched for studies and guidelines published through October 2022 (when the search was conducted) using the keywords “skin”, “COVID-19”, “protective measures”, “cosmeceuticals”, “post COVID”, “maskne”. Investigator reviewed the titles and abstracts of the sample and selected 24 relevant studies for full review. A narrative synthesis of the extracted data was carried out.

**Results:** Skin challenges in COVID-19 pandemics could be divided into three main categories:

- \1) Cutaneous manifestations of COVID-19 disease, where cosmeceuticals are not a therapeutic option;
- \2) Cutaneous symptoms as a result of wearing protective equipment- skin irritation dehydration, pruritus, greasy skin, skin injuries and acne. Hydrating moisturizing cosmeceuticals containing ceramide/lipid mixtures and barrier creams are recommended here. Acne in coexistence with dehydrated skin became one of the most commonly reported problems connected to protective masks wearing. A new term was developed – “*maskne*”. Basic recommendation for “*maskne*” include antibacterial gentle cleansers (pH 5-7.3) and moisturizers which help maintain a healthy skin barrier. Benzoyl peroxide, salicylic acid washes or lotions should be used in order to decrease hyperkeratosis and oil concentration in the skin. Topical niacinamide has been found to reduce sebum production alongside antiinflammatory action while maintaining an intact barrier function. Patients are encouraged to use oil-free products for their make-up and sunscreens and wherever possible hydrophillic serum-based products with sebum-regulating ingredients. Targeted lesional treatment can be achieved using a topical retinoid, benzoyl peroxide cream or azelaic acid suspension 20%. Special attention is on maintaining skin microbiome.
- \3) Cutaneous symptoms related to the post COVID-19 syndrome. Beside dermatological symptoms such as vesicular exanthema, most people reported telogen effluvium and xerosis; COVID-19 infection led to depressed skin lipid levels altered microbiome, reduced barrier function and skin health. Specific cosmeceuticals were often recommended in their management.

**Conclusion:** Cosmeceuticals first started to stand out on the skin care market more than 30 years ago. In the following years, they became expanding category of skin care products, and it seems that current pandemic and related skin issues have increased their significance. Relevant papers and guidelines recommend cosmeceuticals as the first choice in the management of many skin issues connected with pandemic, confirming their importance. Cosmeceuticals could deliver physiologically relevant effects without the use of prescription drugs, which avoids the unwanted effects of drugs, bringing specific benefits.

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**Abstract N°: 2894****Skin Manifestations in Children with COVID-19: A Narrative Review**

Heba Sati<sup>1</sup>, Noor Alzraikat<sup>2</sup>, Milanie Milan<sup>3</sup>, Marita Saliba<sup>1</sup>, Ala'a Fawaz<sup>4</sup>, Myriam Bouer<sup>5</sup>, Samar Semaan<sup>1</sup>, Marie-Line Chedid<sup>6</sup>, Salim Yakdan<sup>4</sup>

<sup>1</sup>Faculty of Medicine and Medical Sciences, University of Balamand, Koura, Lebanon, <sup>2</sup>Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan, <sup>3</sup>milanie.milan98@gmail.com, <sup>4</sup>Faculty of Medical Sciences, Lebanese University, Hadath, Lebanon, <sup>5</sup>Gilbert and Rose-Marie Chagoury School of Medicine, Lebanese American University, Beirut, Lebanon, <sup>6</sup>Faculty of Medicine, Medical University Of Łódź, Łódź, Poland

Skin Manifestations in Children With COVID-19: A Narrative Review

**Introduction & Objectives:**

The symptoms of COVID-19 can vary greatly in severity between different age groups. While most children infected with SARS-CoV-2 experience either no symptoms or only mild symptoms, some reported cases of severely affected children with a clinical presentation similar to incomplete Kawasaki Disease, have led to the definition of a new condition called Multisystem Inflammatory Syndrome in Children (MIS-C). MIS-C can involve multiple organs, including the skin, and may pose a life-threatening risk to affected children. Such cases highlight the need for continuous research into the possible skin manifestations associated with COVID-19 in pediatric populations, to aid in early diagnosis and prompt treatment.

This review aims to highlight the diverse skin manifestations in children and adolescents with COVID induced MIS-C.

**Materials & Methods:**

We conducted a search of PubMed, Scopus, and ScienceDirect databases for studies published up until October 1, 2022. Three reviewers independently examined each study, and a fourth reviewer resolved any disagreements. A narrative review of all relevant papers was conducted.

**Results:** The diagnosis of skin manifestations in children with MIS-C can be challenging, but a high degree of suspicion is critical for early diagnosis and prompt management. The main diagnostic features of this disease include the duration of fever, laboratory evidence, organ system involvement, mucocutaneous manifestations, and infection or exposure to the causative agent with a 4 week period prior to diagnosis. Management strategies utilized in treating affected patients depend on the severity of the disease and could be limited to supportive care or may include fluid repletion and vasopressor care in case of vasogenic shock and, inotropic care, mechanical ventilation, and PICU admission in case of cardiorespiratory complications. Antibiotics are also given in these patients according to guidelines and the blood cultures. Our findings suggest that prompt recognition and management of skin manifestations associated with COVID-19 in pediatric populations can significantly improve patient outcomes.

**Conclusion:**

The skin manifestations of COVID-19 and MIS-C can be diverse and are frequently overlooked, and these include Chilblain-like/Pernio-like lesions, Urticaria, Erythema multiforme, Varicella-like lesions, Morbilliform eruption, and Livedoid lesions. In addition to supportive care, treatment consists of IVIG, topical corticosteroids, oral corticosteroids, systemic steroids, inotropic support, aspirin, heparin, and anti-cytokine therapy like anakinra,

tocilizumab, infliximab, and tumor necrosis factor. It is important to conduct further research to better understand the impact of this disease on children to provide appropriate care.

| Manifestation                                  | Characteristics  | Locations  | Presentation  |
|--|--|--|---|
| <b>MIS-C</b>                                   | <ul style="list-style-type: none"> <li>- May be mistaken for viral exanthems or Rickettsial infections due to palmar/plantar involvement.</li> <li>- Confused for Kawasaki disease.</li> <li>- Inflammatory markers</li> <li>- Gastrointestinal hematological and cardiac involvement may be possible</li> </ul> | <ul style="list-style-type: none"> <li>- Proximal medial lower extremities</li> <li>- Trunk and flexural areas</li> </ul>          | <ul style="list-style-type: none"> <li>- Annular plaques.</li> <li>- Diffuse rash and occasional erythroderma similar to that in Toxic shock Syndrome</li> <li>- Rash and extremity changes, confused for Kawasaki disease, with polymorphous maculopapular eruptions, extremity swelling and desquamation, mucositis and fissured lip</li> <li>- Leukocytoclastic vasculitis and erythema multiforme-like alterations with varied inflammatory infiltration</li> <li>- Necrotic keratinocytes and intraepidermal neutrophils.</li> </ul> |
| <b>Chilblain-like/<br/>Pernio-like lesions</b> | <ul style="list-style-type: none"> <li>- Appear 24 hours after exposure to cold or damp conditions</li> <li>- Resolve within a few weeks</li> </ul>  | <ul style="list-style-type: none"> <li>- Acral skin</li> <li>- Hands or feet, especially affecting the toes and fingers</li> </ul> | <ul style="list-style-type: none"> <li>- Erythematous macules, papules, or nodules</li> <li>- Similar to classic Chilblains, with pain and burning being the most common</li> <li>- Can be either symmetric or asymmetric</li> </ul>  |
| <b>Urticaria</b>                               | <ul style="list-style-type: none"> <li>- Rash that resembles that of idiopathic urticaria</li> <li>- Lasts 24 hours</li> </ul>   | <ul style="list-style-type: none"> <li>- Trunk</li> </ul>  | <ul style="list-style-type: none"> <li>- Itchy edematous wheals of variable sizes</li> <li>- Angioedema</li> </ul>  |
| <b>Erythema multiforme</b>                     | <ul style="list-style-type: none"> <li>- Hypersensitivity reaction triggered by certain antigens</li> <li>- Lasts around 1-3 weeks</li> </ul>  | <ul style="list-style-type: none"> <li>- Forearm, thigh, knee, elbow, arm, and dorsal surface of hands and feet</li> </ul>         | <ul style="list-style-type: none"> <li>- Erythematous target or targetoid macules, papules, and plaques of different sizes with central crusts and bleeding</li> </ul>  |
| <b>Varicella-like lesions</b>                  | <ul style="list-style-type: none"> <li>- Occur 3 days after systemic manifestations develop</li> <li>- Resolve within 8 days without scarring</li> </ul>   | <ul style="list-style-type: none"> <li>- Trunk</li> </ul>  | <ul style="list-style-type: none"> <li>- Small, scattered, monomorphic vesicles</li> <li>- Similar to Herpes or Grover's Disease</li> <li>- Rash causing mild or no pruritus at all</li> </ul>  |
| <b>Morbilloform eruption</b>                   | <ul style="list-style-type: none"> <li>- Caused by infections such as measles, drug eruptions and inflammatory conditions such as Kawasaki disease</li> <li>- Resolves within 9 days</li> </ul>  | <ul style="list-style-type: none"> <li>- Only sparing the mucosa palms, soles</li> </ul>   | <ul style="list-style-type: none"> <li>- Disseminated erythematous macules accompanied with pruritus</li> </ul>   |
| <b>Livedoid lesions</b>                        | <ul style="list-style-type: none"> <li>- Can be either typical livedo reticularis or livedo racemosa</li> <li>- Resolve in 9 days</li> </ul>   | <ul style="list-style-type: none"> <li>- Lower limb</li> </ul>   | <ul style="list-style-type: none"> <li>- Net-like pattern with bluish skin discoloration</li> <li>- Bilateral lesions</li> <li>- Irregular and asymmetrical lesions</li> <li>- Pale centered rings around blood vessels</li> </ul>  |

**Table 1:** Summary of the different skin manifestations' characteristics, location, and presentation.





**Abstract N°: 2905**
**COVID-19: a culprit in pemphigus autoimmunity**

 Imane Ouadi<sup>1</sup>, Daflaoui Hanane<sup>1</sup>, Zizi Nada<sup>2</sup>, Dikhaye Siham<sup>2</sup>

<sup>1</sup>CHU Mohamed VI oujda, Department of Dermatology, Mohammed VI University Hospital of Oujda, Oujda, Morocco, <sup>2</sup>CHU Mohamed VI oujda, Department of Dermatology, Department of Epidemiology, Clinical Research and Public Health Laboratory, Oujda, Morocco

**Introduction & Objectives:**

Pemphigus encompasses a heterogeneous group of life-threatening autoimmune bullous diseases, affecting the skin and mucous membranes. They present a chronic evolution, with significant morbidity and mortality as well as an important impairment of the quality of life. Immunologically caused by autoantibodies directed against desmosomal adhesion proteins leading to the clinical manifestations. Mortality has decreased over the years, mainly due to the use of corticosteroids (CS), immunosuppressants, as well as new biologic agents namely rituximab (RTX). However, in light of the recent COVID-19 pandemic, many concerns were raised about the immunogenicity of the COVID-19 vaccine and the vulnerability of the pharmacologically suppressed patients. Therefore, we aimed to report the relationship of COVID-19 infection and vaccination in our patients.

**Materials & Methods:**

Our work is a monocentric descriptive retrospective study conducted at our university hospital dermatology department, for a period spanning from its inauguration in June 2014 to May 2022.

**Results:**

Sixty-three cases of pemphigus were recorded, with an incidence of 8 new cases per year, we noted a peak in 2020 with 9 new registered cases. The mean age of onset was **55,7 ± 14,83** years and the F/M ratio 1.03. We have not registered any cases of newly-onset pemphigus occurring after a COVID-19 infection, however, in patients who received the COVID-19 vaccine, we recorded the following: 3 cases of a pemphigus recurrence in otherwise remissive patients, occurring 1, 6 and 7 months after the vaccine, and 7 cases of newly-onset pemphigus, with a median of onset of the diseases of 3 months after the vaccine, of the 7 patients who developed new-onset pemphigus, 5 of them (71%) had received at the time of pemphigus onset 3 shots, namely Oxford-AstraZeneca for the first 2 shots in all of the patients, for the 3rd shot, 4 of the 5 patients (80%) received BioNTech-Pfizer vaccine, meanwhile only one patient (20%) received Oxford-AstraZeneca for the 3rd shot.

As for RTX and COVID-19 infection, 4 patients developed a confirmed COVID-19 infection after treatment with RTX, with a timeframe ranging from 4 days at the earliest to 8 months at the latest, while 3 patients had a non-severe form of the infection, one patient passed away due to respiratory failure in the aftermath of his respiratory infection.

**Discussion and conclusion:**

Pemphigus, like other autoimmune disorders, may be induced or aggravated by certain drugs or vaccines. Up to this day, people around the world are still getting vaccinated against SARS-COV2 infection, and this may be associated to the rise of number of newly-onset or flares of autoimmune diseases, namely pemphigus in our case, as was noted in the rise of cases in 2020, which could be explained by an undercurrent asymptomatic infection, as well as the psychological trauma caused by the worldwide state of quarantine. Many theories were emitted to



explain this rise of numbers, and one of them is the coincidental occurrence of pemphigus, however, the ascending number of cases pleads against this theory and hints at an immunity awakening resulting in the onset/flare of autoimmune diseases.

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**Abstract N°: 2930****Severity and Recurrence Rates of Cutaneous Reactions Following Coronavirus Disease (COVID-19) Vaccination: A Cohort Study**Tricia Chong<sup>\*1</sup>, Yee Kiat Heng<sup>1</sup>, Yen Loo Lim<sup>1</sup><sup>1</sup>National Skin Centre, Singapore, Singapore**Introduction & Objectives:**

Cutaneous reactions following coronavirus disease (COVID-19) vaccination have been reported. However, the severity, recurrence rates, and utility of switching between different types of COVID-19 vaccines when a cutaneous reaction occurs is uncertain.

This study aimed to determine the percentage of cutaneous reactions following COVID-19 vaccination that are severe. Additionally, to determine the recurrence rates of these cutaneous reactions. Lastly, to assess if patients deemed ineligible/ who decline further doses of messenger ribonucleic acid (mRNA) COVID-19 vaccination due to a cutaneous reaction develop a similar cutaneous reaction when they are administered a non-mRNA COVID-19 vaccine instead.

**Materials & Methods:**

A cohort study was undertaken from 30 December 2020 – 31 March 2022 at our dermatology department. All patients above 21 years of age who presented with a cutaneous reaction, deemed to have a consistent causal association to COVID-19 vaccination, were invited to participate. Causality assessment was performed according to the World Health Organisation manual for assessing an adverse event following immunisation. Clinical data including patient demographics, past medical history, medications, vaccination history, examination findings and treatment were recorded. Participants were followed-up until the end of study period or their last follow-up appointment, whichever was earlier. Criteria for a severe reaction were adapted from the Food and Drug Administration/ Vaccine Adverse Event Reporting System definition of serious reactions. Cutaneous reactions were classified by their dermatological diagnoses and the data analysed.

**Results:**

A total of 153 patients were enrolled. 52% of these reactions were severe. There were no deaths. Patients with severe reactions were either hospitalised or required physician prescription of treatment to prevent further deterioration in their condition.

Further vaccination with a non-mRNA COVID-19 vaccine was associated with 0% recurrence rate for patients that initially developed cutaneous vasculitis with an mRNA-based COVID-19 vaccine. Administration of a non-mRNA COVID-19 vaccine in patients with other types of cutaneous reactions did not eliminate recurrence.

**Conclusion:**

This study suggests that a proportion of cutaneous reactions following COVID-19 vaccination are severe and require physician intervention. During vaccination drives, healthcare regulatory authorities and dermatology service providers may need to consider increasing capacity to manage possible surges in requests for dermatology consults.

Results from this study also suggest that non-mRNA COVID-19 vaccines may be a safe alternative for individuals

that develop cutaneous vasculitis after receiving mRNA-based COVID-19 vaccines.

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**Abstract N°: 3094****sars-cov-2 associated nodular vasculitis**

Filiz Cebeci Kahraman<sup>1</sup>, Oyku Gonullu<sup>2</sup>, Tunç Özen<sup>2</sup>, Bengu Cobanoglu Simsek<sup>3</sup>

<sup>1</sup>Sultan Abdülhamid Han Eğitim Ve Araştırma Hastanesi Tıbbi Sarf Depo, dermatology and venereology, Türkiye,

<sup>2</sup>İstanbul Medeniyet Üniversitesi Göztepe Süleyman Yalçın Şehir Hastanesi, dermatology and venereology,

Türkiye, <sup>3</sup>İstanbul Medeniyet Üniversitesi Göztepe Süleyman Yalçın Şehir Hastanesi, dermatology and venereology

**Introduction & Objectives:**

Nodular Vasculitis is a rare inflammatory disease with subcutaneous adipose tissue-centred changes. The basin form of erythema induratum associated with mycobacterium tuberculosis was first described by Ernest Bazin in the mid-19th century. It is an erythematous indurated and sometimes painful subcutaneous nodule or plaque, usually involving the posterior lower leg. (1,2) Three types have been defined, including tuberculosis, other drugs and diseases, and idiopathic. To our knowledge, no covid-19 related nodular vasculitis case has been described in the literature, so we report a case of nodular vasculitis developing after a sars-cov-2 infection.

**Case:** A 52-year-old male patient with three doses of the Biontech vaccine was admitted to our clinic with erythematous, infiltrating, painful, cellulitis-like plaque lesions with a diameter of 5-6 cm on the inner part of both legs two weeks after Sars-Cov-2 infection two months after the third dose. The biopsy results obtained with the prediagnoses of nodular vasculitis and erythema nodosum were compatible with nodular vasculitis with swelling and fibrin deposition in small to medium diameter vascular endothelium, perivascular lymphocytes and histiocytes, neutrophil and erythrocyte extravasation and granuloma structures composed of histiocytes in the mid and deep dermis. The c-reactive-protein was sixteen, sedimentation was thirty-five on complete blood count and topical steroid was started. Colchicine 3x1 was added to the treatment as the erythema on the tibia decreased. However, two new lesions with a diameter of 2x3 cm on the anterior right thigh and two new lesions with a diameter of 2x2 cm on the back of the tibia appeared.

**Conclusion:**

Nodular vasculitis is a rare form of panniculitis and has been defined as a type 3 and type 4 mediated immune hypersensitivity reaction which may be tuberculosis-related (erythema induratum basin), other diseases, drugs or idiopathic. Since it can be a painful and disfiguring infection, nonsteroidal anti-inflammatory drugs, leg elevation and compression constitute the first step in treatment after excluding tuberculosis infection. (3) Potassium iodide, systemic glucocorticosteroids, immunomodulators and colchicine constitute the second step in unresponsive cases. (4). Although cases of nodular vasculitis due to hepatitis c (5) and hepatitis b (6) viruses have been described in the literature, we found it appropriate to present the first case since a case of sars-cov-2-induced nodular vasculitis has not been described yet.

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**Abstract N°: 3202**

**Pseudoperniosis in patients with Covid-19: ELMO1 rs1345365 variant: MEPIEL case series.**

Itzel Flores Reyes<sup>1</sup>, Carlos Enrique Cabrera<sup>1</sup>, Víctor Víctor Castañeda Salazar<sup>1</sup>, Sergio Alberto Ramirez Garcia<sup>2</sup>, Judan Orozco Sánchez<sup>1</sup>

<sup>1</sup>MEPIEL, DERMATOLOGY, JALISCO, Mexico, <sup>2</sup>Oaxaca, Centro de Investigación Médica Traslacional y de Medicina de Precisión (CIMETP), Servicios Médicos Profesionales Particulares A.C, Miahuatlán de Porfirio Díaz, Oaxaca., Oaxaca, Mexico

**Pseudoperniosis in patients with Covid-19: ELMO1 rs1345365 variant: MEPIEL case series.**

**Introduction & Objectives:**

Pseudo chilblain is known as chilblains on the hands and skin, corresponding to areas of lesions with erythema or violaceous color, blisters, and pustules, usually asymmetrical. It is considered the fifth most frequent dermatosis in patients infected with SARS-COV2 (Covid-19), and the most characteristic, frequently observed in young patients and late stages of the disease. Various vascular factors have been proposed, such as endothelial dysfunction and secondary microangiopathy due to Covid-19, as possible biological determinants.

In this sense, the rs1345365 polymorphism of the ELMO1 gene is a candidate marker to describe pathology, as it regulates vasculogenesis, angiogenesis, fibrogenesis, inflammation, apoptosis, and cell migration, which are dysregulated processes in patients with Covid-19.

**Materials & Methods:**

Among a total of 4370 patients treated for Covid-19 at CIMETP and "ME Piel Centro dermatológico", 830 male patients were selected, of whom 415 presented unilateral pseudo chilblain (cases) (n=812) or bilateral (n=18). Additionally, 415 patients who had Covid-19 were matched by age with the cases (range 18-45 years) but did not develop any type of dermatosis. DNA was extracted from peripheral blood using the GeneCatcher Kit (Invitrogen), to amplify the rs1345365 polymorphism of the ELMO1 gene by allele-specific polymerase chain reaction, with the primers and reaction conditions, amplification program, and polyacrylamide gel electrophoresis previously reported.

**Results:**

The ancestral homozygous G/G genotype was found more frequently in patients with pseudo chilblain, while the homozygous A/A reference genotype was more frequent in the controls. Five models were analyzed using multiple logistic regression (ARLM), finding the homozygous G/G genotype associated with increased risk in different models.

**Conclusion:**

Thus, this is the first study to show a possible relationship between pseudo chilblain in patients with Covid-19 and the rs1345365 variant of the ELMO1 gene."

**Abstract N°: 3941****Acral dermatoses in pediatric dermatology: “COVID-19-associated palmar dermatosis”**Khatuna Kudava<sup>1</sup><sup>1</sup>European University, Dermatology, Tbilisi, Georgia

**Introduction & Objectives:** Along with affecting to various organs, the COVID-19 infection also leads to distinct skin manifestations. Although the overall prevalence of infection in the general pediatric population is low, concurrent skin lesions pose a challenge for pediatric dermatology. Extensive data exist regarding various skin pathologies associated with COVID-19 infection in children. Common skin conditions include chilblains and erythema multiforme. Acral dermatoses observed in children with COVID-19 exhibit characteristic clinical manifestations and require specific detection and management throughout different stages.

**Materials & Methods:** Four similar cases are presented: cases of skin pathology in children aged 3-9 years who tested positive for COVID-19. These children exhibited febrile fever and mild symptoms of intoxication without complications affecting specific organs. The acute symptoms persisted for 3-5 days. Subsequently, the affected children developed a red, inflamed, and uniformly erythematous rash solely on their palms, accompanied by severe itching. No other rashes were observed on other skin areas or mucous membranes, either during the acute phase of COVID-19 or afterward. Any connection between the rash and other infections or medications was excluded. Following one week of oral antihistamine therapy, the rash completely resolved in all cases.

**Results:** The acral spread of COVID-19-related skin pathologies has become relevant in the field of pediatric dermatology. By focusing on acral findings, is presented four similar cases featuring palm rashes that do not perfectly align with the characteristics of any particular skin disease.

**Conclusion:** The detection of dermatoses in children with COVID-19 is of great importance in pediatric dermatology. The cases presented, which lacks specific characteristics for a defined skin disease, can be considered as instances of acral manifestations: “COVID-19-associated palmar dermatosis.”





**Abstract N°: 3970**
**Diffuse and mixed cutaneous pseudolymphoma: an unknown adverse effect of COVID-19 vaccine**

 Ikram El Modafar<sup>1, 2</sup>, Maryem Aboudourib<sup>1, 2</sup>, Ouafa Hocar<sup>1, 2</sup>, Said Amal<sup>1, 2</sup>

<sup>1</sup>University Hospit Mohamed the VI th, Dermatology Department, Marrakesh, Morocco, <sup>2</sup>School of Medicine and Pharmacy, Caddi Ayyad University, Biosciences and Health Laboratory, Marrakesh, Morocco

**Introduction & Objectives:**

Since the declaration of COVID-19 as a health emergency, several vaccines have been developed to control this pandemic. Although the data concerning the efficacy and safety of vaccines are reassuring, many cutaneous side effects of varying severity have been reported. Pseudolymphoma is a very rare complication of vaccination. This entity brings together a heterogeneous group of disorders clinically and histologically simulating cutaneous lymphoma, but whose evolution is benign.

Through this observation, we report the first case of diffuse mixed pseudolymphoma secondary to the COVID-19 vaccine (*BBIBP-CorV*).

**Materials & Methods:**

We report the case of a 59-year-old woman, with no medical history, who reported a sudden onset of itchy hyperpigmented patches located on the abdomen as well as a nodule at the vaccine injection site 15 days after the first dose of the COVID-19 vaccine and the extension of the lesions to the lower limbs one month after the 2nd dose of the vaccine. The dermatological examination objectified infiltrated confluent hyperpigmented plaques on the back and lower limbs\*\* and discreetly hyperpigmented plaques on the abdomen. The rest of the clinical examination as well as the biological tests were normal. PCR for Lyme borreliosis was also negative.

Histological examination showed nodular lymphoid hyperplasia of the superficial and deep dermis composed of small to medium-sized lymphocyte cells without atypia or mitoses organized around the vessels and hair follicles and penetrating the sweat glands. These lymphoid nodules are separated by a fibrous dermis containing a histiocytic and plasma cell infiltrate. Immunohistochemistry showed very positive antiCD20 and antiCD5 antibodies, positive antiCD3 and antiKi 67, and slightly positive antiCD10 and antiBcl2.

Given the clinical and histological presentation, the diagnosis of diffuse mixed pseudolymphoma was thus retained and the patient was treated with topical corticosteroids with a good evolution within 2 weeks.

**Results:**

Pseudolymphoma is a skin lesion resulting from a known or unknown stimulus. The diagnosis of pseudolymphoma is challenging. The clinical and immunohistological correlation makes it possible to differentiate a pseudolymphoma from a true cutaneous lymphoma. Nevertheless, malignant transformation into primary low-grade cutaneous B-cell lymphoma is possible.

Vaccination site-associated pseudolymphoma is an extremely rare phenomenon, although documented. Several vaccines, over the years, have been implicated in the occurrence of cutaneous pseudolymphoma at the injection site, including the hepatitis B vaccine, meningoencephalitis, and the tetanus vaccine. New lesions are likely to appear after further injections of the vaccine away from the injection site. It has been proposed that cutaneous pseudolymphoma may represent a reaction to vaccine adjuvants such as aluminum used in many vaccines to increase immune response. The latter was found to be present in the sinopharm vaccine.

Only two cases of pseudolymphoma occurring at the injection site of the Pfizer vaccine have been described. However, no case of pseudolymphoma distant from the site of injection of a COVID vaccine has been previously reported in the literature, hence the originality of our observation.

**Conclusion:**

By reporting this rare drug vaccine reaction, we hope to expand dermatologists' knowledge of differential diagnoses when faced with secondary skin reactions to vaccination.

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**Abstract N°: 4194****Schnitzler syndrome with recurrent subacute thyroiditis following SARS-CoV-2 vaccine - a case and literature review**

Krzysztof Kanabaj<sup>\*1</sup>, Małgorzata Sokołowska-Wojdyło<sup>1</sup>, Roman Nowicki<sup>1</sup>, Aleksandra Wilkowska<sup>1</sup>

<sup>1</sup>Gdański Uniwersytet Medyczny, Department of Dermatology, Venerology and Allergology, Gdańsk, Poland

**Introduction & Objectives:**

Schnitzler syndrome (SS) is an extremely rare acquired systemic disease that shares many similarities with various hereditary autoinflammatory syndromes. It consists of chronic non-pruritic urticarial rash, monoclonal gammopathy and systemic symptoms, such as: recurrent fever, arthralgia, myalgia, bone pain, bone lesions and enlargement of spleen and liver. The specific feature associated with SS is its spectacular response to anti-interleukin-1 agents, such as anakinra or canakinumab. The aim of this article is to present a new case of SS with recurrent subacute thyroiditis following SARS-CoV-2 vaccine.

**Materials & Methods:**

A 51-year-old woman was admitted to the department of dermatology due to chronic non-pruritic urticarial rash, recurrent fever (reaching up to 40.5°C) and debilitating bone and muscle pain. The symptoms began two weeks after administering SARS-CoV-2 vaccine. The rash manifested with a typical urticarial, exanthematous morphology (with single wheals merging into greater ones), but the lesions were not pruritic - the patient described painful sensations of burning and tingling. The patients complained about flu-like symptoms: myalgia, arthralgia, muscle weakness and general malaise. The patient experienced no relief of symptoms during prednisone treatment or with antihistamine drugs. Moreover, following the vaccine dose the patient experienced recurrent subacute thyroiditis episodes that proved unresponsive to the treatment with thyrostatic therapy, thus resulting in complete thyroidectomy.

**Results:**

Due to increased IgM serum concentration, elevated CRP and serum amyloid A levels, recurrent neutrophilia, mild thrombocytosis and positive monoclonal gammopathy with elevated  $\kappa$  light chains level we suspected SS as diagnosis. We suspected the diagnosis of SS based on the recurrent character of the symptoms and its resistance to classical treatment. As there is no specific test for SS, after excluding other potential causes we applied the Strasbourg criteria - the patient met the two major criteria (the urticarial skin rash and monoclonal IgM gammopathy) and three out of four minor criteria (intermittent fever, a neutrophilic dermal infiltrate of the skin and elevated ESR/CRP levels). The patient received anakinra with complete remission of urticarial eruption and systemic symptoms two days after the first dose, thus confirming the diagnosis.

**Conclusion:**

Due to the scarcity of available information regarding the correlation between SS and SARS-CoV-2 vaccine, but also due to the relative rarity of this condition, it is impossible to prove causation in this case study. More studies are necessary to be performed regarding the immunogenicity of the virus and its vaccine. It is also important to take such a rare diagnosis into consideration in patients with recurrent, unresponsive to treatment and non-standard manifestation of otherwise relatively common disorder like urticaria.



**Abstract N°: 4341****Peeling skin syndrome: A Post-COVID complication**

Benchekroun Lina<sup>1</sup>, Ouissal Essadeq<sup>1</sup>, Meriam Meziane<sup>1</sup>, Nadia Ismaili<sup>1</sup>, Laila Benzekri<sup>1</sup>, Karima Senoussi<sup>1</sup>

<sup>1</sup>Hospital Ibn Sina, Rabat, Morocco

**Introduction & Objectives:**

Peeling skin syndrome (PSS) is a rare dermatological condition characterized by continuous or episodic exfoliation of the skin

There are two forms of PSS, the generalized form and the acral form in which skin peeling is limited to the hands and feet.

Here we report the case of a woman who developed an acral peeling skin syndrome after a lung COVID infection.

**Materials & Methods:**

It's a 29-year-old woman with no medical history, who had a COVID-related lung infection in 2020 during the pandemic. A few months later, the patient started noticing fragility in her skin, as her hands and feet start peeling especially after friction. She describes that any minimal pressure against an object, such as reaching into a bag or zipping up pants, leads the skin to tears easily. It is more frequent in the hands as they are much more prone to trauma than the feet. It is completely asymptomatic, without itching or pain; However, it is not aesthetically pleasing. On dermatological examination, there were erosions of various sizes especially on the back of the hand.

**Results:**

The fact that prior to the COVID infection, the patient had normal, non-fragile skin, and that this developed after the COVID infection, leads us to believe that it is a post-COVID complication.

The underlying etiology of PSS involves abnormalities in the skin's barrier function, leading to impaired adhesion between epidermal layers. Genetic mutations, such as those affecting the desmosomes or corneodesmosomes, have been implicated in familial forms of PSS. Acquired forms as in our patient, can be triggered by various factors, including infections, medications, and environmental irritants.

Emerging evidence suggests a potential association between PSS and complications following COVID-19 infection. Reports have described cases of PSS developing in individuals during or after their recovery from COVID-19. It is hypothesized that the dysregulation of the immune system and inflammation associated with COVID-19 could contribute to the development or exacerbation of PSS in susceptible individuals.

**Conclusion:**

Peeling Skin Syndrome is a rare dermatological condition characterized by skin exfoliation. While further research is needed to elucidate its pathogenesis and potential link with post-COVID complications, clinicians should be aware of this association and consider PSS as a differential diagnosis in individuals presenting with skin peeling following COVID-19 infection. Timely recognition and appropriate management are crucial for optimizing patient outcomes.



**Abstract N°: 4483****Clinical features of COVID-19 associated hair loss**Liliia Likhonos\*<sup>1</sup><sup>1</sup>Fomin clinic, Dermatology, Krasnodar, Russian Federation**Introduction & Objectives:**

Diffuse pattern of hair loss (DHL) associated with COVID-19 is present in almost 30% of patients and is considered by the majority of authors as telogen effluvium (TE).

There is a controversial approach in literature regarding the presence of dystrophic anagen effluvium in patients with COVID-19 associated DHL. Some authors consider it as TE with acute onset (Starace et al., 2021). According the traditional classification it is a hallmark of anagen effluvium (AE).

The aim of the study was to analyse the pattern of hair loss and another clinical features in patients with COVID-19 associated alopecia.

**Materials & Methods:**

20 patients with approved diagnosis of COVID-19 and associated alopecia were included in the study:

4 women with alopecia areata and the mean age  $30,25 \pm 8,07$  years old. And 16 patients (1 man and 15 women) with DHL and the mean age  $42,13 \pm 12,02$  years old.

Daily hair count, trichoscopic features and the results of pull test initially and after 2 weeks of treatment with topical superpotent corticosteroids in patients with DHL were evaluated.

**Results:**

The average time for the development of alopecia after COVID-19 infection was  $2,03 \pm 0,66$  months.

We drew attention to facilitated hair extraction with minimal traction and highly positive pull test in 6 (37,50%) patients with DHL. Morphologic characteristics of pulled hair corresponded to dystrophic anagen effluvium.

10 (62,5%) and 4 (25%) with DHL had yellow dots and pigtail hair, respectively, on trichoscopy.

Comorbidities with POCS (4,20%), psoriasis (3,15%), diabetes mellitus (3,15%) and autoimmune thyroiditis (2,10%) were identified.

Daily hair loss at the initial consultation in the group of patients with DHL was  $616,14 \pm 168,33$  hair and  $135,55 \pm 32,70$  after 2 weeks of treatment with superpotent topical corticosteroids.

15 (93,75%) patients noticed quick and significant improvement during treatment.

**Conclusion:**

According to the presence of dystrophic anagen effluvium and good response to topical corticosteroid treatment in significant number of patients with COVID-19 associated alopecia we propose to consider another types of alopecia manifested by DHL and the clinic of dystrophic anagen effluvium such as alopecia areata incognita - a diffuse type of alopecia areata.





**Abstract N°: 4809****Lipschütz Ulcers Associated with SARS-CoV-2 (Covid -19) Vaccination. Literature Review**

Valeria Alexandra Ureña-Lopez<sup>\*1</sup>, Alex Sebastián García-Gutiérrez<sup>2</sup>

<sup>1</sup>Universidad UTE del Ecuador., Associate Professor of Medical School, Faculty of Health Sciences, "Eugenio Espejo", Quito, Ecuador, <sup>2</sup>Universidad Internacional del Ecuador, Medical School, Faculty of Health and Life Sciences., Quito, Ecuador

**Introduction & Objectives:**

Lipschütz's acute vulvar ulcers, are uncommon, non-sexually acquired genital lesions. Recently, Lipschütz's acute vulvar ulcers cases have been described in association to COVID-19 disease and vaccination.

**Materials & Methods:**

We performed articles searched on MEDLINE, Cochrane Central, Embase and Google Scholar articles since December 11, 2020, to April 30, 2023. The search was based on the detection of relevant keywords such as: "Lipschütz ulcer", "acute genital ulcers", "ulcus vulvae acutum" AND "COVID-19 vaccination", " SARS-Cov-2 vaccination ", SARS-Cov-2 disease" or "COVID-19 disease".

**Results:** Seventy-two female patients were identified. Ages ranged from 12 to 29 years, median age was 12 years. Of the 72 patients, 60 had received the BNT162b2 vaccine, 7 had received the ChAdOx1 nCoV-19 vaccine, 3 had received the mRNA-1273 vaccine and one had received Ad26.COVS.2.S. Median onset of symptoms post vaccination was 2 days, and median resolution of the ulcers was 12 days. \*\*

**Conclusion:**

Lipschütz's acute vulvar ulcers have been reported in the literature after the administration of the mRNA vaccines (BNT162b2/Pfizer®-BioNTech®, mRNA-1273/Moderna®) and the vector vaccines families (AZD1222/ChAdOx1-AstraZeneca®, Ad26.COVS.2.S/Janssen, Johnson & Johnson®).



**Abstract N°: 5000****Cutaneous lupus erythematosus after COVID-19 vaccine: report of four cases**Nora Pollozhani<sup>1</sup>, Maja Dimova<sup>1</sup>, Nevenka Adjievska<sup>2</sup>, Julija Mitrova Telenta<sup>1</sup><sup>1</sup>University Clinic of Dermatology, Skopje, Department of Dermatology, Skopje, North Macedonia, <sup>2</sup>University Clinic of Dermatology, Skopje, Department of dermatology, Skopje, North Macedonia

**Introduction & Objectives:** Various cutaneous side effects associated with COVID-19 vaccination have been reported. Although the initial vaccine trials showed a favorable side effect profile, there have been concerns regarding activation of aberrant immune responses, triggering autoimmunity.

**Materials & Methods:** Herein, we report four cases of cutaneous lupus erythematosus following COVID-19 vaccination with three different vaccines: Oxford–AstraZeneca COVID-19 (AZD1222), Pfizer–BioNtech (BNT162b2 vaccine), and Moderna (1273 vaccine). The patients had different forms of cutaneous lupus and had no prior history of autoimmune disorder.

**Results:** The first patient was a 69-year-old patient with onset of TEN-like subacute cutaneous lupus. Three weeks after receiving the first dose of Oxford–AstraZeneca COVID-19 vaccine she presented with fever malaise and generalized, innumerable confluent erythematosus and purpuric macules with superficial erosions and blisters. Histopathology revealed a vacuolar interface dermatitis, and also showed numerous necrotic keratinocytes as well as focally extensive epidermal necrosis. Immunologic screening showed elevation of ANA, anti Ro and Anti La antibodies. The second case is a 65-year-old female patient, who presented with an onset of erythematous polycyclic lesions in photo exposed regions, two weeks after the second dose of Pfizer–BioNtech vaccine. The immunological investigation showed elevated ANA, anti Ro anti La antibodies. The third patient was 42-year-old male presenting with lupus tumidus one month after having taken the second dose of Moderna vaccine. The lesions consisted of edematous erythemo-violaceous plaques in malar region, with no systemic symptoms. Fourth and final case is a 58-year-old patient which presented with arthralgia, malaise, fever and generalized polycyclic erythematous rash four weeks after the second dose of the Pfizer–BioNtech vaccine. RF, ANA, anti-Ro and anti-CCP were all elevated. Skin biopsy showed interface dermatitis with superficial perivascular lymphocyte infiltrate. The combination of the clinical and immunological findings corresponded with the diagnosis of Rhupus Syndrome.

**Conclusion:** Studies have reported that COVID-19 vaccination may also be associated with flares and induction of cutaneous lupus erythematosus. In our cases, CLE is likely to be associated with the COVID-19 vaccine due to the absence of prior autoimmune diseases, close temporal relationship between vaccination and skin eruption, and absence of other trigger factors. To our knowledge, our case of Rhupus Syndrome after Pfizer–BioNtech vaccine, TEN-like subacute cutaneous lupus erythematosus after Oxford–AstraZeneca COVID-19 and Lupus tumidus after Moderna vaccine are the first cases of their kind heretofore described in literature.



**Abstract N°: 5049****GP's and Patient's perceptions of Advice and Guidance Teledermatology service during the Covid-19 pandemic.**Conn McGrath<sup>1</sup><sup>1</sup>Guy's and St Thomas' NHS Foundation Trust, Dermatology , London, United Kingdom**GP's and Patient's perceptions of Advice and Guidance Teledermatology service during the Covid-19 pandemic.****Introduction & Objectives:**

Our department has been offering teledermatology service for our local GPs since July 2019 through the e-Referral advice and guidance (eRS A&G) functionality. We serve over 1,000,000 patients in one of the most ethnical diverse populations in the country. We receive approximately 300 monthly requests with an average conversion rate of 20%. Following Covid-19 pandemic and the expansion of the service, we aimed to evaluate patients and general practitioners perceptions

**Materials & Methods:**

We conducted a telephone survey of patients who were referred between July 2021 and October 2021. Through random selection via eRS spreadsheet, we retrospectively contacted patients by telephone in November and December 2021. All local GPs were approached with an electronic survey and anonymised feedback collected between March and April 2021.\*\*

**Results:**

66 patients responded to the survey. Mean time since referral: 2.5 months. **36 (54.6%) found the service helpful in either diagnosing or treating their skin complaint. The most commonly cited benefits were timely response as well as not having to travel to hospital.** However 48 (72.7%) of respondents would have preferred to have been seen face to face in clinic. The majority of these noting issues with photo quality, difficulties obtaining photos and the inability of photos to capture generalised skin complaints. The preference to be seen face to face was higher in those who did not speak English as their primary language (76%) or who were elderly, (>70 years, 100%).\*\* Despite this, 43 (65%) respondents would consider this option for any future skin problems.\*\* \*\* 39 GPs responded to the electronic survey. 35 (89.7%) of which found the eRS A&G useful and received a timely response. 30 (76.9%) stated that it reduced the number of dermatology referrals they needed to make and 34 (87.1%) stated they are likely to continue using the service. 30 (77%) agreed that the responses increased their learning and provided professional development.

**Conclusion:** \*\* The Quality Standards for Teledermatology recommend annual patient and service users feedback (1).As others have shown, the main benefits of teledermatology were prompt responses and avoiding travel to hospital (2). These important factors allowed ongoing provision of dermatology services during the pandemic. However, technological barrier and issues with patients own photos were highlighted. Recent videos produced by NHS England and ongoing research on patient digital literacy should minimise these barriers. Further evaluation will be required to assess if this service continues to meet patients and GPs expectations post pandemic.



**Abstract N°: 5056**

**A case of pityriasis rubra pilaris following COVID-19 vaccine**

Ikram El Modafar<sup>1, 2</sup>, Maryem Aboudourib<sup>1, 2</sup>, Ouafa Hocar<sup>1, 2</sup>, Said Amal<sup>1, 2</sup>, Lahouaoui Asma<sup>2, 3</sup>, Benbiba Sara<sup>2, 3</sup>, Fakhri Anas<sup>2, 3</sup>, Rais Hanane<sup>2, 3</sup>

<sup>1</sup>University Hospital Mohamed the VI th, Dermatology Department, Marrakesh, Morocco, <sup>2</sup>School of Medicine and Pharmacy, Caddi Ayyad University, Biosciences and Health Laboratory, Marrakesh, Morocco, <sup>3</sup>University Hospital Mohamed the VI th, Anatomopathology Department, Marrakesh, Morocco

**Introduction & Objectives:**

Pityriasis rubra pilaris (PRP) is a rare chronic papulosquamous disorder of keratinization. Hypothetically, this disease may be induced by an abnormal immune response toward different antigenic stimuli such as infections, trauma and influenced by genetic background. Disease occurrence after COVID vaccination has been rarely reported.

Here, we report a case of PRP following Sinopharm BBIBP-CorV vaccine.

**Materials & Methods:**

A 53 year old man, with no medical history, was vaccinated with two doses of Sinopharm vaccine. Four weeks later, the patient presented a progressive scaly reddish plaques initially affecting the trunk then progressing all over the body and face. The clinical examination noted erythroderma characterized by erythematous-to-orange scaly plaques with islands of sparing, follicular keratotic red-brown papules over both thighs and legs, and waxy red-orange palmoplantar keratoderma with fissuring of the soles. There was no oral, ocular, or genital mucosal involvement. The biopsy objectived follicular plugging, with alternating bands of orthokeratosis and parakeratosis and hyperkeratosis.

The clinical features and histopathology were consistent with a diagnosis of PRP type I. Given the temporal relationship, the absence of new medication previous infection, the proposed trigger for this eruption was the COVID 19vaccine. The patient was treated with [Acitretin](#) 25 mg daily with a total clearance in the forth month.

**Results:**

The COVID-19 vaccines currently in use worldwide have been demonstrated to be extremely safe; however, a variety of adverse effects have been described. The Sinopharm vaccine is an inactivated COVID-19 vaccine and is been widely used in lots of countries. Several cutaneous adverse effects after Sinopharm vaccination are currently being described but post-vaccine PRP has never been reported in the literature.

To the best of our knowledge only 18 patient from 10 different countries have been reported to have PRP following COVID 19 vaccination. Three (17%) patients received Sinovac's CoronaVac, an inactivated vaccine similar to Sinopharm. Seven (39%) patients received the AstraZeneca vaccine, six (33%) patients received the Pfizer-BioNTech vaccine, two (11%) patients received the Moderna vaccine. The onset time of PRP ranges from 2 days to 8 weeks.

Litterature shows that PRP was also reported following vaccination (measles-mumps-rubella, oral poliovirus, diphtheria-pertussis-tetanus and influenza vaccines).

The causal relationship between COVID-19 vaccines and cutaneous immunological reactions is still not

understood, but they can be due to an upregulated inflammatory immunological pathway or cross-reactivity between vital or adjuvant molecules and self-antigens.

**Conclusion:**

PRP is a new addition to the adverse events following the vaccine. It is difficult to fully ascertain the cause of the disease following vaccination. Therefore, more studies are needed to establish the causative relationship between the vaccine and PRP.

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**Abstract N°: 5867****Acute Hemorrhagic Edema of Infancy after Coronavirus Infection**Kaoutar Elmachichi<sup>1</sup>, Lafdali Oumaima<sup>1</sup>, Maryem Aboudourib<sup>1</sup>, Hocar Ouafae<sup>1</sup>, Amal Said<sup>1</sup><sup>1</sup>Chu Mohamed Vi Marrakesh**Introduction & Objectives:**

Acute hemorrhagic edema of infancy (AHEI) is a rare leukocytoclastic vasculitis, which usually affects children between 4 and 24 months old. It is often misdiagnosed as Henoch-Schönlein purpura due to clinical similarities. It is clinically characterized by the classic triad of purpuric skin lesions, edema and fever.

Although the cause is unknown, the AHEI is often preceded by an infection (eg, respiratory tract infection or gastroenteritis), medication (eg, acetaminophen or penicillin), or vaccination.

We report the case of an AHEI in a 7-month-old infant, 15 days after a COVID 19 infection, suggesting a possible causal link.

**Materials & Methods:**

A 7-month-old boy, with a history of SARS-CoV-2 infection two weeks before his admission to the pediatric emergency for purpuric lesions and edema initially localized to the extremities, all evolving in a feverish context without any other cutaneous or extracutaneous signs,

Dermatological examination revealed cockade ecchymotic purpuric lesions with edema in the face; forearm, hand, leg, foot and the external ear. The rest of the clinical examination were unremarkable.

The results of the laboratory tests came back negative in particular complete blood count, c-reactive protein and 24-hour urine protein.

In front of the clinical triad made of purpura with cockade pattern, the edema and the fever, the diagnosis of the acute hemorrhagic edema of the infant was retained and a symptomatic treatment of fever was instituted with clinical monitoring.

The evolution was marked by a spontaneous regression of the purpuric lesions and edema without treatment on the tenth day after the onset of the eruption.

**Results:**

AHEI was reported after upper respiratory tract infection and viral infections, including herpes simplex virus, rotavirus, and adenovirus. In this regard, vaccinations and antibiotics have been recognized as triggers. AHEI is a leukocytoclastic vasculitis in infants and toddlers aged less than 2 years. This disease is characterized by a purpuric/ecchymotic rash and edema over the limbs, ears, and face. IgA deposits are seen in 10% to 35% of biopsy specimens, so this is a disagreement that it is a mild form of HSP or it is a distinct disease [3, 4]. Usually, AHEI is a self-limited disease, and more than 90% of infected patients completely recover from the disease only with a supportive care within 1–3 weeks after the symptoms' presentation. Of note, systemic involvement, including abdominal pain, intussusception, arthralgia, testicular torsion, and glomerulonephritis, occurred in fewer than 10% of patients diagnosed with AHEI

There are some reports demonstrating that COVID-19 is associated with maculopapular, purpuric, and

acroischemic skin lesions. In this regard, few reports suggested that COVID-19 triggers the secretion of some inflammatory products and induces generalized vasculitis. It may be considered as the etiology of these vasculitis-like lesions due to causing endothelial damage.

**Conclusion:**

A few cases of OAHN following SARS-CoV-2 infection have been reported during the Covid19 pandemic, suggesting a causal link between these two pathological entities.

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**Abstract N°: 5941****Treatment Refractory Chronic Spontaneous Urticaria following COVID-19 vaccination**

LI Jie Helena Yoo<sup>\*1</sup>, Liana Victory<sup>1</sup>, Claire Quigley<sup>1</sup>, Ciara Devenney<sup>1</sup>, Stephanie Bowe<sup>1</sup>, Eoin Storan<sup>1</sup>

<sup>1</sup>The Mater Misericordiae University Hospital, Dermatology, Dublin, Ireland

**Introduction & Objectives:**

A range of cutaneous adverse reactions have been reported post COVID-19 infection and vaccination. Chronic spontaneous urticarial (CSU) is defined as development of wheals, angioedema, or both for more than 6 weeks. In a registry-based study of 414 cases, urticarial eruptions were the second commonest delayed skin reaction post COVID-19 vaccination.

**Materials & Methods:**

Herein, we describe 2 cases of CSU post COVID-19 vaccines resistant to maximum doses of H1 antihistamines and montelukast, necessitating immunosuppressive therapy.

**Results:**

The first case was a 57-year-old lady who developed urticaria two weeks after her first COVID-19 messenger RNA (mRNA) vaccine. After receiving her second vaccine, her urticaria worsened. There was no angioedema. She had no previous history of atopy, drug allergy or urticaria. She was treated with four times the maximum dose of three different H1 antihistamines (fexofenadine, bilastine and levocetirizine) and montelukast but with no relief. Cyclosporine was added at 2.5mg/kg. Her urticaria was well controlled on this regimen for 14 months, with an average UAS7 score of 14. She subsequently developed a severe flare and anaemia on ciclosporine and is currently being transitioned to omalizumab.

The second case was a 53-year-old lady who developed urticaria two weeks after her first COVID-19 mRNA vaccine. This was associated with eye and lip swelling. She was treated with a four-fold increase of 3 different types of H1 antihistamines (fexofenadine, bilastine and levocetirizine), montelukast and oral steroids. Unfortunately, her symptoms remain debilitating with a daily UAS 7 score of 42, indicating severe symptoms. Her symptoms affected her sleep and she had taken multiple absences from work. She was subsequently commenced on omalizumab.

Both of our patients were middle-aged females with urticaria +/- angioedema developing 2 weeks after their first COVID-19 mRNA vaccines. Neither of our patients had a history of urticaria, atopy or drug allergy. Both patients did not respond to four-fold increase of H1 antihistamines in addition to montelukast. These features were similar to two case series which included 20 patients who developed CSU post COVID-19 vaccination. Majority were female (65%), median age of 45 years (range, 27-76 years), symptoms occurred at a median of 7 days (range, 1-20 days) after vaccination. Majority of patients developed symptoms after the first vaccine. Messenger RNA (Pfizer) and adenoviral vector vaccines (AstraZeneca and Moderna) have been implicated.

**Conclusion:**

We present these two cases to add to the growing list of adverse cutaneous reaction post COVID-19 vaccination. In our experience, COVID-19 vaccination related CSU has been resistant to anti-histamines and montelukast and required omalizumab therapy.

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**Abstract N°: 6007**

## Chronic Spontaneous Urticaria following vaccination against SARS-CoV-19

Maria Kyriazopoulou<sup>\*1</sup>, Stamatis Gregoriou<sup>1</sup>, Eleni Chatzidimitriou<sup>1</sup>, Antonios Tsimpidakis<sup>1</sup>, Alexander Stratigos<sup>1</sup>

<sup>1</sup>Andreas Syngros Hospital of Venereal & Dermatological Diseases, Αθήνα, Greece

### Introduction & Objectives:

Vaccination against COVID-19 provided indisputable merits for the vaccinee and the community, during the pandemic. However, vaccination on such a large scale, also caused emergence of adverse events or modification in the course of existing disorders in vaccinated individuals. The repetitive exposure to vaccine antigens has been associated to a broad spectrum of eruptions, either generalized or localized. Chronic spontaneous urticaria after mRNA or vector vaccines has been described in numerous case reports and case series.

We aimed to investigate the putative relationship between the vaccination events and Chronic Spontaneous Urticaria in an “Allergies and Atopy” Department.

### Materials & Methods:

We identified all new onsets or relapses, following long-term long remission (>2years), for the period of reference (from Jan 2021 to Nov 2022). Subjects who reported new CSU or CSU relapse within 4 weeks after COVID-19 vaccination, were followed for 6 months. Demographic data, personal and family medical history, course of the disease laboratory data and detailed information about the type and dose of the vaccine, time of CSU onset or relapse after vaccination was recorded. Severity of CSU was assessed by using the Urticaria Activity Score-7.

### Results:

Fifty-six patients were included in the study (data shown in table). On-site visits after 3 and 6 months were performed and data regarding the course of the disease were recorded (UAS-7 and ΔUAS-7 under treatment). Sixteen patients were treated with omalizumab and only four patients exhibited refractory disease six months after the introduction of therapy.

### Conclusion:

CSU onset or relapse after long term remission, following COVID-19 vaccination, could be expected with all vaccines utilized in the Greek population vaccination. It is more common in female patients. Mean onset was 11.3± 9 days in the population studied. Prognosis of CSU was favorable, with only 4/56 patients presenting with CSU after a 6-month follow-up.

|  |            |
|--|------------|
| <b>CSU Patients with new onset or relapse after 2years of remission, N</b>         | <b>258</b> |
| CSU patients who reported onset or relapse within a month after vaccination, N (%) | 56 (21.7)  |
| Male patients, n (%)   | 12 (21.4)  |
| Female patients, n (%)   | 44 (78.6)  |
| Mean Age (yrs)   | 45.23      |

|  
Type of vaccine

- BNT162b2 vaccine, n (%)
    - mRNA-1273 vaccine, n (%)
      - AZD1222 vaccine, n (%)
        - JNJ-78436735 vaccine, n (%) |
- 27 (48.2%)
- 19 (33.9%)
- 3 (5.3%)
- 7 (12.5%)

|

Mean time since vaccination,

- BNT162b2 vaccine (n)
    - mRNA-1273 vaccine (n)
      - AZD1222 vaccine (n)
        - JNJ-78436735 vaccine (n) |
- 11.3±9 days
- 12
- 11.1
- 16.67
- 6.86

**Abstract N°: 6040****Post COVID-19 livedoid vasculopathy – raport of three cases**

Suzana Nikolovska<sup>1</sup>, Maja Dimova<sup>1</sup>, Ivana Dohcheva Karajovanov<sup>1</sup>, Julija Mitrova Telenta<sup>1</sup>, Silvija Duma<sup>2, 2</sup>, Hristina Breshkovska<sup>1</sup>

<sup>1</sup>University Clinic of Dermatology, Skopje, North Macedonia, <sup>2</sup>University Clinic of Dermatology

**Introduction & Objectives:**

Livedoid vasculopathy (LV) is a rare hyalinizing vasculopathy characterised by recurrent occlusion of cutaneous microcirculation, often associated with thrombophilias, autoimmune connective tissue diseases and neoplasms. The pathogenesis of LV is still not elucidated.

We present three patients with elevated D-dimer levels during COVID-19 convalescence associated with LV.

**Observations:**

Three patients aged 24 years, 35 years and 38 years with post COVID-19 associated LV being managed as out-patients during their illness. All patients presented with classic triad of livedo reticularis, leg ulcerations, and atrophie blanche/scarring. Histopathology showed hyaline thrombi within dermal vessels, scarce lymphocytic infiltration and thickened dermal collagen. Analysis for assessment of procoagulant state including prothrombin time, activated partial thromboplastin time, fibrinogen, protein C, protein S, anti-thrombin III levels, cryoglobulins, lupus anticoagulant, anti-cardiolipin and homocysteine levels were within normal range. Increased D-dimer levels (>500 ng/ml) were observed in all patients. Analysis for detection of associated conditions such as anti-nuclear antibodies, anti-Ro, anti-La, serum complement, rheumatoid factor, Hepatitis B, C and HIV were normal. Venous color duplex ultrasonography excluded flebothrombosis. The patients were treated with dual antiplatelet therapy (DAPT): Tablet Aspirin 75 mg + Tablet Clopidogrel 150 mg once daily, along with recommended wound care and compression stockings. Markable clinical improvement was noticed within 12 weeks, although D-dimer levels remained elevated. None of the patients experience flare in their disease course over one year period of follow-up.

**Conclusion:**

The elevated D-dimer levels in post covid patients associated with LV, contribute to the theory that thrombophilic state may be involved in pathogenesis of LV.



**Abstract N°: 6109****An Epidemiology Review Of Patient Non-Attendance In Dermatology Outpatient Clinics Pre-Covid, Peri-Covid And Post-Covid**

Sarah O'mahony<sup>1, 2</sup>, Anoushka Saldanha<sup>1</sup>, Adebola Shekoni<sup>1</sup>, Anne Marie Tobin<sup>1, 2</sup>

<sup>1</sup>Trinity College Dublin, Ireland, <sup>2</sup>Tallaght University Hospital, Ireland

**Introduction & Objectives:**

The COVID-19 pandemic has led to an unprecedented socioeconomic burden and disruption to healthcare systems worldwide. Patient non-attendance due to COVID led to challenges in various medical specialties including dermatology, a high-volume, outpatient specialty with long waiting periods. Non-attendance refers to when a patient misses a scheduled healthcare appointment without prior notice to their medical providers. It is an indicator of poorer health outcomes, higher costs for the organisation, and reduced efficiency of healthcare services. The objective of this epidemiological study is to review the effects of COVID-19 on patient demographics and non-attendance in the dermatology outpatient setting of a tertiary hospital. \*\*\*

**Materials & Methods:**

A retrospective cohort study was conducted on patients who did not attend their appointments across March 2019, 2020, 2021, and 2022 to represent the period before, during, and after COVID. Data was collected from electronic hospital records and patients themselves via telephone. Patient-related variables examined included: age, gender, type of appointment, marital, employment, smoking status, whether patients live alone or not, comorbidities, socioeconomic status, distance from and mode of transport to the hospital, and attitude towards hospitals.

**Results:**

Patient non-attendance increased by 4.4% with the surge of COVID during March 2020 and was highest post-COVID in 2022 (17.1%). Patients who consistently missed their appointments across the four years were single, working females from a marginally below-average socioeconomic background, did not live alone, and travelled via car. Mean age and distance from the hospital were variables that appeared to increase during COVID.

**Conclusion:**

Consistent patient non-attendance during the COVID-19 pandemic was\*\*\* attributed to a variety of factors influenced by COVID. Further research is required to gain statistical significance of demographics that affected patient attendance.